

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.

Application Serial Number: 10/619,939 A  
Source: IFW/6  
Date Processed by STIC: 11/29/06

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 11/29/2006

PATENT APPLICATION: US/10/619,939A

TIME: 13:49:13

Input Set : R:\Revised Sequence Listing 11-21-06.ST25.txt

Output Set: N:\CRF4\11292006\J619939A.raw

```

3 <110> APPLICANT: Advisys, Inc.
5 <120> TITLE OF INVENTION: Codon optimized Synthetic Plasmid
7 <130> FILE REFERENCE: 108328.00146
C--> 9 <140> CURRENT APPLICATION NUMBER: US/10/619,939A
C--> 9 <141> CURRENT FILING DATE: 2003-07-15
9 <160> NUMBER OF SEQ ID NOS: 43
11 <170> SOFTWARE: PatentIn version 3.3
13 <210> SEQ ID NO: 1
14 <211> LENGTH: 3534
15 <212> TYPE: DNA
16 <213> ORGANISM: artificial sequence
18 <220> FEATURE:
19 <223> OTHER INFORMATION: Plasmid vector having an analog GHRH sequence.
21 <400> SEQUENCE: 1
22 gttgtaaaac gacggccagt gaattgtaat acgactcact atagggcgaa ttggagctcc 60
24 accgcggtgg cggccgtccg ccctcggcac catcctcacg acacccaaat atggcgacgg 120
26 gtgaggaatg gtggggagtt atttttagag cggtgaggaa ggtgggcagg cagcaggtgt 180
28 tggcgctcta aaaataactc ccgggagtta ttttttagagc ggaggaatgg tggacacca 240
30 aatatggcga cggttcctca ccgctcgcca tatttgggtg tccgccctcg gccggggccg 300
32 cattcctggg ggccggggcg tgctcccgcc cgctcgcata aaaggctccg gggccggcgg 360
34 cggcccacga gctaccggga ggagcgggag gcgccaaagt ctagaactag tggatcccaa 420
36 ggcccaactc cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct 480
38 ctgggtgttc ttctttgtga tctcaccct cagcaacagc tcccactgct cccacactcc 540
40 ccctttgacc ctgaggatgc ggcggcacgt agatgccatc ttcaccaaca gctaccggaa 600
42 ggtgctggcc cagctgtccg ccgcaagct gctccaggac atcctgaaca ggcagcaggg 660
44 agagaggaac caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg 720
46 ggtggcatcc ctgtgacccc tccccagtg cctctcctggc cctggaagt gccactccag 780
48 tgcccaccag ccttgtccta ataaaattaa gttgcatcat tttgtctgac taggtgtcct 840
50 tctataatat tatggggtgg aggggggtgg tatggagcaa ggggcaagt gggaagacaa 900
52 cctgtagggc ctgcggggtc tattgggaac caagctggag tgcagtggca caatcttggc 960
54 tctactgcaat ctccgcctcc tgggttcaag cgattctcct gcctcagcct cccgagttgt 1020
56 tgggattcca ggcattgcat accaggctca gctaattttt gtttttttgg tagagacggg 1080
58 gtttcaccaa attggccagg ctggtctcca actcctaate tcaggtgatc taccacactt 1140
60 ggcttcccaa attgctggga ttacaggcgt gaaccactgc tcccttcctt gtccttctga 1200
62 ttttaaaata actataccag caggaggacg tccagacaca gcataggcta cctggccatg 1260
64 cccaaccggt gggacatttg agttgcttgc ttggcactgt cctctcatgc gttgggtcca 1320
66 ctgagtagat gcctgttgaa ttcgataccg tcgacctcga gggggggccc ggtaccagct 1380
68 tttgttcctt ttagtgaggg ttaatttcga gcttggcgta atcatggtca tagctgtttc 1440
70 ctgtgtgaaa ttgttatccg ctcaaatc cacacaacat acgagccgga agcataaagt 1500
72 gtaaagcctg ggggtgcctaa tgagttagct aactcacatt aattgcgttg cgctcactgc 1560
74 ccgctttcca gtcgggaaac ctgtcgtgcc agctgcatta atgaatcggc caacgcgcgg 1620
76 ggagaggcgg tttgcgtatt gggcgctctt ccgcttcctc gctcactgac tcgctgcgct 1680
78 cggtcgttcg gctgcggcga gcggtatcag ctactcaaa ggcggtaata cggttatcca 1740

```

## RAW SEQUENCE LISTING

DATE: 11/29/2006

PATENT APPLICATION: US/10/619,939A

TIME: 13:49:13

Input Set : E:\Revised Sequence Listing 11-21-06.ST25.txt

Output Set: N:\CRF4\11292006\J619939A.raw

```

80  cagaatcagg ggataacgca ggaaagaaca tgtgagcaaa aggccagcaa aaggccagga 1800
82  accgtaaaaa ggccgcgttg ctggcggtttt tccataggct ccgccccctt gacgagcatc 1860
84  acaaaaaatcg acgctcaagt cagagggtggc gaaacccgac aggactataa agataaccagg 1920
86  cgtttccccc tggaaagctcc ctcgctgcgt ctccgtgttc gaccctgccg cttaccggat 1980
88  acctgtccgc ctttctccct tcgggaagcg tggcgctttc tcatagctca cgctgtaggt 2040
90  atctcagttc ggtgtaggtc gttcgctcca agctgggctg tgtgcacgaa cccccgttc 2100
92  aqcccqaccg ctgcgctta tccggttaact atcgtcttga gtccaacccg gtaagacacg 2160
94  acttatcgcc actggcagca gccactggta acaggattag cagagcgagg tatgtaggcg 2220
96  gtgctacaga gttcttgaag tgggtggccta actacggcta cactagaaga acagtatttg 2280
98  gtatctgcgc tctgtgaag ccagttacct tcggaaaaag agttggtagc tcttgatccg 2340
100 gcaaacaaac caccgctggt agcgggtggtt tttttgtttg caagcagcag attacgcgca 2400
102 gaaaaaaagg atctcaagaa gatcctttga tcttttctac ggggtctgac gctcagaaga 2460
104 actcgtcaag aaggcgatag aaggcgatgc gctgcgaatc gggagcggcg ataccgtaaa 2520
106 gcacgaggaa gcggtcagcc cattcgccgc caagctcttc agcaatatca cgggtagcca 2580
108 acgctatgtc ctgatagcgg tccgccacac ccagccggcc acagtcgatg aatccagaaa 2640
110 agcggccatt ttccaccatg atattcgga agcaggcatc gccatgggtc acgacgagat 2700
112 cctcgccgtc gggcatgcgc gccttgagcc tggcgaacag ttccgctggc gcgagccctt 2760
114 gatgctcttc gtccagatca tctgatcga caagaccggc ttccatccga gtacgtgctc 2820
116 gctcagtcgc atgtttcgct tgggtggcga atgggcagggt agccggatca agcgtatgca 2880
118 gccgccgat tgcacagcc atgatggata ctttctcggc aggagcaagg tgagatgaca 2940
120 ggagatcctg ccccggcact tcgcccata gcagccagtc ccttcccgtc tcagtgacaa 3000
122 cgtcgagcac agctgcgcaa ggaacgcccg tcgtggccag ccacgatagc cgcgctgcct 3060
124 cgtcctgcag ttcatcagg gcaccggaca ggtcggtctt gacaaaaaga accgggcgcc 3120
126 cctgcgctga cagccggaac acggcgcat cagagcagcc gattgtctgt tgtgccagc 3180
128 catagccgaa tagcctctcc acccaagcgg ccggagaacc tgcgtgcaat ccatcttggt 3240
130 caatcatgcg aaacgatcct catcctgtct cttgatcaga tcttgatccc ctgcgccatc 3300
132 agatccttgg cggcaagaaa gccatccagt ttactttgca gggcttccca accttaccag 3360
134 agggcgcccc agctggcaat tccggttcgc ttgctgtcca taaaaccgcc cagtctagca 3420
136 actgttgggg agggcgatcg gtgcgggcct cttcgctatt acgccagctg gcgaaagggg 3480
138 gatgtgctgc aaggcgatta agttgggtaa cgccagggtt ttcccagtcg cgac 3534
141 <210> SEQ ID NO: 2
142 <211> LENGTH: 2739
143 <212> TYPE: DNA
144 <213> ORGANISM: artificial sequence
146 <220> FEATURE:
147 <223> OTHER INFORMATION: Optimized vector having an analog GHRH sequence.
149 <400> SEQUENCE: 2
150 ccaccgcggt ggcggccgtc cgccctcggc accatcctca cgacacccaa atatggcgac 60
152 gggtagaggaa tggtagggag ttatttttag agcgtgagg aaggtgggca ggcagcaggt 120
154 gttggcgctc taaaaataac tcccgggagt tatttttaga gcggaggaat ggtggacacc 180
156 caaatatggc gacggttctt caccgtcgc catatttggg tgtccgccct cggccggggc 240
158 cgcattcctg ggggcccggc ggtgctccc cccgctcga taaaaggctc cggggccggc 300
160 ggcggcccac gagctacccg gagagcggg aggcgccaag cggatcccaa ggcccaactc 360
162 cccgaaccac tcagggtcct gtggacagct cacctagctg ccatggtgct ctgggtgttc 420
164 ttctttgtga tctcaccct cagcaacagc tcccactgct cccacctcc ccctttgacc 480
166 ctgaggatgc ggcggtatgc agatgccatc ttcaccaaca gctaccggaa ggtgctgggc 540
168 cagctgtccg cccgcaagct gctccaggac atcatgagca ggcagcagg agagaggaa 600
170 caagagcaag gagcataatg actgcaggaa ttcgatatca agcttatcgg ggtggcatcc 660
172 ctgtgacccc tcccagtgct ctctcctggc cctggaagtt gccactccag tgcccaccag 720

```

## RAW SEQUENCE LISTING

DATE: 11/29/2006

PATENT APPLICATION: US/10/619,939A

TIME: 13:49:13

Input Set : E:\Revised Sequence Listing 11-21-06.ST25.txt

Output Set: N:\CRF4\11292006\J619939A.raw

```

174 ccttgtccta ataaaattaa gttgcatcat tttgtctgac taggtgtcct tctataatat 780
176 tatgggggtg aggggggtg tatggagcaa ggggcaagtt ggggaagacaa cctgtagggc 840
178 tcgagggggg gcccggtacc agcttttggt ccccttagtg aggggttaatt tcgagcttgg 900
180 tcttccgctt cctcgctcac tgactcgctg cgctcggtcg ttcggctgcg gcgagcggtg 960
182 tcagctcact caaaggcggt aatacggtta tccacagaat caggggataa cgcaggaaag 1020
184 aacatgtgag caaaaggcca gcaaaaggcc aggaaccgta aaaaggccgc gttgctggcg 1080
186 tttttccata ggctccgccc cctgacga catcacaaaa atcgacgctc aagtacaggg 1140
188 tggcgaaacc cgacaggact ataaagatac caggcggttc cccctggaag ctccctcgtg 1200
190 cgctctcctg ttccgacctt gccgcttacc ggatacctgt ccgcctttct cccttcggga 1260
192 agcgtggcgc tttctcatag ctacgcgtg aggtatctca gttcggtgta ggtcggtcgc 1320
194 tccaagctgg gctgtgtgca cgaaccccc gttcagcccg accgctgcg cttatccggt 1380
196 aactatcgtc ttgagtccaa cccggtaaga cagcacttat cgccactggc agcagccact 1440
198 ggtaacagga ttagcagagc gaggtatgta ggcggtgcta cagagttctt gaagtgggtg 1500
200 cctaactacg gctacactag aagaacagta tttggtatct gcgctctgct gaagccagtt 1560
202 accttcggaa aaagagttgg tagctcttga tccggcaaac aaaccaccgc tggtagcggt 1620
204 ggtttttttg tttgcaagca gcagattacg cgcagaaaaa aaggatctca agaagatcct 1680
206 ttgatctttt ctacggggtc tgacgctcag ctacgctcga gaagaactcg tcaagaaggc 1740
208 gatagaaggc gatgcgctgc gaatcgggag cggcgatacc gtaaagcacg aggaagcggt 1800
210 cagcccattc gccgccaagc tcttcagcaa tatgacgggt agccaacgct atgtcctgat 1860
212 agcggctccg caccaccagc cggccacagt cgatgaatcc agaaaagcgg ccattttcca 1920
214 ccatgatatt cggcaagcag gcatcgccat gagtcacgac gagatcctcg ccgtcgggca 1980
216 tgcgcgcctt gagcctggcg aacagttcgg ctggcgcgag cccctgatgc tcttcgtcca 2040
218 gatcatcctg atcgacaaga ccggcttcca tccgagtacg tgctcgctcg atgcgatggt 2100
220 tcgcttggtg gtcgaatggg caggtagccg gatcaagcgt atgcagccgc cgcattgcat 2160
222 cagccatgat ggatactttc tcggcaggag caaggtgaga tgacaggaga tcttgccccg 2220
224 gcacttcgcc caatagcagc cagtcccttc ccgcttcagt gacaacgctc agcacagctg 2280
226 cgcaaggaa ccccgctcgt gccagccacg atagccgcgc tgccctcgcc tgcagttcat 2340
228 tcagggcacc ggacaggtcg gtcttgacaa aaagaaccgg gcgcccctgc gctgacagcc 2400
230 ggaaccaggc ggcacagag cagccgattg tctgttgtgc ccagtcatag ccgaatagcc 2460
232 tctccacca agcggccgga gaacctgcgt gcaatccatc ttgttcaatc atgcgaaacg 2520
234 atcctcatcc tgtctcttga tcagatcttg atccccctgc ccatcagatc cttggcggca 2580
236 agaaagccat ccagtttact ttgcagggtc tcccaacctt accagagggc gcccagctg 2640
238 gcaattccg ttgcgttgct gtccataaaa ccgcccagtc tagcaactgt tgggaagggc 2700
240 gatcgtgtaa tacgactcac tataggcgga attggagct 2739

```

243 &lt;210&gt; SEQ ID NO: 3

244 &lt;211&gt; LENGTH: 795

245 &lt;212&gt; TYPE: DNA

246 &lt;213&gt; ORGANISM: artificial sequence

248 &lt;220&gt; FEATURE:

249 <223> OTHER INFORMATION: Nucleic acid sequence for the antibiotic resistance gene  
 250 kanamycin.

252 &lt;400&gt; SEQUENCE: 3

```

253 atgattgaac aagatggatt gcacgcaggt tctccggccg cttgggtgga gaggtatttc 60
255 ggctatgact gggcacaaca gacaatcggc tgctctgatg ccgccgtgtt ccggctgtca 120
257 gcgcaggggc gcccggttct ttttgtcaag accgacctgt ccggtgccct gaatgaactg 180
259 caggacgagg cagcgcggtc atcgtggctg gccacgacgg gcgttccttg cgcagctgtg 240
261 ctcgacgttg tcaactgaagc gggaaggac tggctgctat tgggcgaagt gccggggcag 300
263 gatctcctgt catctcacct tgctcctgcc gagaaagtat ccatcatggc tgatgcaatg 360
265 cggcggtgct atacgcttga tccggctacc tgcccattcg accaccaagc gaaacatcgc 420

```

## RAW SEQUENCE LISTING

DATE: 11/29/2006

PATENT APPLICATION: US/10/619,939A

TIME: 13:49:13

Input Set : E:\Revised Sequence Listing 11-21-06.ST25.txt

Output Set: N:\CRF4\11292006\J619939A.raw

```

267 atcgagcgag cacgtactcg gatggaagcc ggtcttgctg atcaggatga tctggacgaa      480
269 gagcatcagg ggctcgcgcc agccgaactg ttcgccaggc tcaaggcgcg catgcccgcac      540
271 ggcgaggatc tcgtcgtgac tcatggcgat gcctgcttgc cgaatatcat ggtggaaaat      600
273 ggccgctttt ctggattcat cgactgtggc cggctgggtg tggcggaccg ctatcaggac      660
275 atagcgttgg ctacccgtga tattgctgaa gagcttggcg gcgaatgggc tgaccgcttc      720
277 ctctgtcttt acggtatcgc cgtccccgat tcgcagcgca tcgccttcta tcgccttctt      780
279 gacqagttct tctga                                                    795
282 <210> SEQ ID NO: 4
283 <211> LENGTH: 219
284 <212> TYPE: DNA
285 <213> ORGANISM: artificial sequence
287 <220> FEATURE:
288 <223> OTHER INFORMATION: Sequence for an analog porcine GHRH sequence.
290 <400> SEQUENCE: 4
291 atggtgctct ggggtgttctt ctttgtgacg ctcaccctca gcaacagctc ccactgctcc      60
293 ccacctcccc ctttgaccct caggatgcgg cggcacgtag atgccatctt caccaacagc      120
295 taccggaagg tgctggccca gctgtccgcc cgcaagctgc tccaggacat cctgaacagg      180
297 cagcagggag agaggaacca agagcaagga gcataatga                        219
300 <210> SEQ ID NO: 5
301 <211> LENGTH: 246
302 <212> TYPE: DNA
303 <213> ORGANISM: artificial sequence
305 <220> FEATURE:
306 <223> OTHER INFORMATION: Sequence for an analog mouse GHRH sequence.
308 <400> SEQUENCE: 5
309 gccatggtgc tctgggtgct ctttgtgacg ctcacacctca ccagcggcag ccactgcagc      60
311 ctgctctcca gccctccctt caggatgcag aggcacgtgg acgccatctt caccaccaac      120
313 tacaggaagc tgctgagcca gctgtacgcc aggaaggtga tccaggacat catgaacaag      180
315 cagggcgaga ggatccagga gcagagggcc aggctgagct gataagcttg cgatgagttc      240
317 ttctaa                                                                246
320 <210> SEQ ID NO: 6
321 <211> LENGTH: 234
322 <212> TYPE: DNA
323 <213> ORGANISM: artificial sequence
325 <220> FEATURE:
326 <223> OTHER INFORMATION: Sequence for an analog rat GHRH sequence.
328 <400> SEQUENCE: 6
329 gccatggccc tgtgggtgtt cttcgtgctg ctgaccctga ccagcgggaag ccactgcagc      60
331 ctgctctcca gccctccctt cagggtgcgc cggcacgccg acgccatctt caccagcagc      120
333 tacaggagga tcctgggcca gctgtacgct aggaagctcc tgcacgagat catgaacagg      180
335 cagcagggcg agaggaacca ggagcagagg agcaggttca actgataagc ttgc                234
338 <210> SEQ ID NO: 7
339 <211> LENGTH: 225
340 <212> TYPE: DNA
341 <213> ORGANISM: artificial sequence
343 <220> FEATURE:
344 <223> OTHER INFORMATION: Sequence for an analog bovine GHRH sequence.
346 <400> SEQUENCE: 7
347 gccatggtgc tgtgggtgtt cttcctggtg accctgaccc tgagcagcgg ctcccacggc      60

```

## RAW SEQUENCE LISTING

DATE: 11/29/2006

PATENT APPLICATION: US/10/619,939A

TIME: 13:49:13

Input Set : E:\Revised Sequence Listing 11-21-06.ST25.txt

Output Set: N:\CRF4\11292006\J619939A.raw

```

349 tccctgccct cccagcctct gcgcacccct cgctacgccg acgccatctt caccaacagc      120
351 taccgcaagg tgctcggcca gctcagcgcc cgcaagctcc tgcaggacat catgaaccgg      180
353 cagcagggcg agcgcaacca ggagcaggga gcctgataag cttgc                      225
356 <210> SEQ ID NO: 8
357 <211> LENGTH: 225
358 <212> TYPE: DNA
359 <213> ORGANISM: artificial sequence
361 <220> FEATURE:
362 <223> OTHER INFORMATION: Sequence for an analog ovine GHRH sequence.
364 <400> SEQUENCE: 8
365 gccatggtgc tgtgggtggt cttcctggtg accctgaccc tgagcagcgg aagccacggc      60
367 agcctgcccc gccagccctt gaggatccct aggtacgccg acgccatctt caccaacagc      120
369 tacaggaaga tcctgggcca gctgagcgct aggaagctcc tgcaggacat catgaacagg      180
371 cagcagggcg agaggaacca ggagcagggc gcctgataag cttgc                      225
374 <210> SEQ ID NO: 9
375 <211> LENGTH: 246
376 <212> TYPE: DNA
377 <213> ORGANISM: artificial sequence
379 <220> FEATURE:
380 <223> OTHER INFORMATION: Sequence for an analog chicken GHRH sequence.
382 <400> SEQUENCE: 9
383 gccatggtgc tctgggtgct ctttgtgatc ctcacctca ccagcggcag ccaactgcagc      60
385 ctgcctccca gccctccctt caggatgcag aggcacgtgg acgccatctt caccaccaac      120
387 tacaggaagc tgctgagcca gctgtacgcc aggaaggtga tccaggacat catgaacaag      180
389 cagggcgaga ggatccagga gcagagggcc aggctgagct gataagcttg cgatgagttc      240
391 ttctaa                      246
394 <210> SEQ ID NO: 10
395 <211> LENGTH: 190
396 <212> TYPE: DNA
397 <213> ORGANISM: artificial sequence
399 <220> FEATURE:
400 <223> OTHER INFORMATION: Nucleic acid sequence of human growth hormone poly A tail.
402 <400> SEQUENCE: 10
403 ggggtggcatc cctgtgaccc ctccccagtg cctctcctgg ccctggaagt tgccactcca      60
405 gtgcccacca gccttgctct aataaaaatta agttgcatca ttttgtctga ctaggtgtcc      120
407 ttctataata ttatgggggtg gaggggggtg gtatggagca aggggcaagt tgggaagaca      180
409 acctgtaggg                      190
412 <210> SEQ ID NO: 11
413 <211> LENGTH: 55
414 <212> TYPE: DNA
415 <213> ORGANISM: artificial sequence
417 <220> FEATURE:
418 <223> OTHER INFORMATION: Nucleic acid sequence of human growth hormone 5'
untranslated
419      region
421 <400> SEQUENCE: 11
422 caaggcccaa ctccccgaac cactcagggt cctgtggaca gctcacctag ctgcc          55
425 <210> SEQ ID NO: 12
426 <211> LENGTH: 782
427 <212> TYPE: DNA

```

**VERIFICATION SUMMARY**

DATE: 11/29/2006

PATENT APPLICATION: US/10/619,939A

TIME: 13:49:14

Input Set : E:\Revised Sequence Listing 11-21-06.ST25.txt

Output Set: N:\CRF4\11292006\J619939A.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application No

L:9 M:271 C: Current Filing Date differs, Replaced Current Filing Date